

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 – 18 (Cancelled)

Claim 19 (New). A method of producing short-wavelength electromagnetic emissions comprising:
providing a target comprising a metallic compound solution in a target zone, wherein the metallic compound solution comprises a metallic suspension having nano-size particles;
irradiating the target with a high-energy source to form a plasma that generates electromagnetic emissions;

Claim 20 (New). A method according to claim 19 wherein the target comprises a metallic compound dissolved in a solvent.

Claim 21 (New). A method according to claim 19 wherein providing a target comprises forming droplets of the metallic compound solution.

Claim 22 (New). A method according to claim 19 wherein the average target size in the range of about 10 microns to about 100 microns.

Claim 23 (New). A method according to claim 19 wherein the step of providing a target is performed at temperature in the range of about 10 degrees C to about 30 degrees C.

Claim 24 (New). A method according to claim 19 wherein the high-energy source is a laser.

Claim 25 (New). A method according to claim 24 wherein the laser produces a laser beams having a diameter in the target zone that is substantially identical to the average target size.

Claim 26 (New). A method according to claim 19 wherein the target comprises a metallic salt and a solvent.

Claim 27 (New). A method according to claim 19 wherein the target comprises a metallic chloride and a solvent.

Claim 28 (New). A method according to claim 27 wherein the metallic chloride is selected from the group consisting of zinc chloride, copper chloride, tin chloride, and aluminum chloride.

Claim 29 (New). A method according to claim 19 wherein the target comprises a metallic bromide and a solvent.

Claim 30 (New). A method according to claim 29 wherein the metallic bromide is selected from the group consisting of zinc bromide, copper bromide, and tin bromide.

Claim 31 (New). A method according to claim 19 wherein the target comprises a metallic sulfate and a solvent.

Claim 32 (New). A method according to claim 31 wherein the metallic sulfate is selected from the group consisting of zinc sulfate, copper sulfate, and tin sulfate.

Claim 33 (New). A method according to claim 19 wherein the target comprises a metallic nitrate and a solvent.

Claim 34 (New). A method according to claim 33 wherein the metallic nitrate is selected from the group consisting of zinc nitrate, copper nitrate, and tin nitrate.

Claim 35 (New). A method according to claim 19 wherein the target comprises an organo-metallic compound and a solvent.

Claim 36 (New). A method according to claim 35 wherein the organo-metallic compound is selected from the group consisting of bromoform, diodomethane, selenium dioxide, and zinc dibromide.

Claim 37 (New). A method according to claim 19 wherein the short-wavelength electromagnetic emissions have a wavelength of about 11 nanometers.

Claim 38 (New). A method according to claim 19 wherein the short-wavelength electromagnetic emissions have a wavelength of about 13 nanometers.

Claim 39 (New). A system for producing short-wavelength electromagnetic emissions comprising:
a vacuum chamber;

a target dispenser connected to the vacuum chamber and configured to dispense targets comprising a metallic compound solution into a target zone, wherein the metallic compound solution comprises a metallic suspension having nano-size particles; and

a focusing device in fixed relation to the target chamber, wherein the focusing device is operable to focus a high energy source onto the target zone.

Claim 40 (New). A system according to claim 39, further comprising a precision adjustment unit coupled with the target dispenser, wherein the precision adjustment unit is operable to adjust a position of the target zone in three orthogonal dimensions.

Claim 41 (New). A system according to claim 39, further comprising a collector mirror disposed in the vacuum chamber and operable to reflect the short wavelength electromagnetic emissions.

Claim 42 (New). A system according to claim 39, further comprising a cryogenic trap disposed in the vacuum chamber and operable to collect targets that are not irradiated by the high energy source.

Claim 43(New). A system according to claim 39 wherein the focusing device is a lens.

Claim 44 (New). A system according to claim 39 wherein the average target size in the range of about 10 microns to about 100 microns.

Claim 45 (New). A system according to claim 39 wherein the high energy source is a laser.

Claim 46 (New). A system according to claim 45 wherein the laser is configured to produce a laser beam having a diameter in the target zone that is substantially identical to the average target size.

Claim 47 (New). A system according to claim 39 that is operable to provide targets in liquid form in a temperature range from about 10 degrees centigrade to about 30 degrees centigrade.